

Notice of Allowability

Application No.

09/845,480

Examiner

Lynette T. Umez-Eronini

Applicant(s)

QUEL ET AL.

Art Unit

1765

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 5/13/04.
2. ☒ The allowed claim(s) is/are 1-10.
3. ☒ The drawings filed on 30 April 2001 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☒ Interview Summary (PTO-413), Paper No./Mail Date 6/8/2004
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

NADINE G. NORTON
SUPERVISORY PATENT EXAMINER

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Rosemary Pike on June 8, 2004.

The application has been amended as follows:

In claim 3, line 2, delete [HOSP, SILK, FLARE,] and [(BCB)];

In claim 3, line 3, delete [(MSQ)];

In claim 4, line 2, delete [CORAL, BLACK DIAMOND,] and [(FSG)];

In claim 4, line 3, after "carbon-doped" delete [FSG] then insert in its place --fluorinated silicate glass--;

In claim 4, line 3, after "nitrogen-doped" delete [FSG, Z3MS, XLK] then insert in its place --fluorinated silicate glass--;

In claim 4, line 3, delete [HSQ)];

In claim 8, line 2, delete [HOSP, SILK, FLARE,] and [(BCB)];

In claim 8, line 3, delete [(MSQ)];

In claim 9, line 2, delete [CORAL, BLACK DIAMOND,] and [(FSG)];

In claim 9, lines 2-3, after "carbon-doped" delete [FSG], then insert --fluorinated silicate glass--;

In claim 9, line 3, after "nitrogen-doped" delete [FSG, Z3MS, XLK] then insert in its place --fluorinated silicate glass--;

In claim 9, line 3, delete [(HSQ)].

2. The following is an examiner's statement of reasons for allowance:

As to claims 1-5, the prior art of record taken alone or in combination fails to teach, suggest, or render obvious the sequence of steps in a method of forming dual damascene opening in the fabrication of an integrated circuit device, in combination with the rest of the limitations of the above claims

As to claims 6-10, applicants have presented persuasive arguments (see pages 6-9 of Remarks filed 1/29/2004) to show the prior art of record taken alone or in combination fails to teach, suggest, or render obvious etching a via pattern into said organic dielectric layer through said trench pattern of an inorganic dielectric layer, in a sequence of steps in a method of forming dual damascene openings in the fabrication of an integrated circuit device, in combination with the rest of the limitations of the above claims.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lynette T. Umez-Eronini whose telephone number is 571-272-1470. The examiner is normally unavailable on the First Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nadine Norton can be reached on 571-272-1465.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Itue

June 8, 2004

NADINE G. NORTON
SUPERVISORY PATENT EXAMINER

A handwritten signature in cursive script, appearing to read "Nad Norton", is written below the printed name and title.